

Structures

The extensive range of Marlon ST structures and sheet thicknesses provides a range of properties to suit a diverse variety of applications. For advice on a specific project please contact your sales representative or our technical department.

Twinwall (Twin) - thicknesses 4, 6, 8, 10 & 30mm

Thickness	U-Value
4mm	3.9
6mm	3.7
8mm	3.4
10mm	3.2
30mm	2.6

Fourwall (Four) - thicknesses 8mm & 10mm

Thickness	U-Value
8mm	2.8
10mm	2.5

Triplewall (Triple) - thickness 16mm

Thickness	U-Value
16mm	2.4

M Wall (M) - thickness 16mm

Thickness	U-Value
16mm	2.2

16x32mm M Wall (M) - improved clarity

Thickness	U-Value
16mm	2.5

X Wall (X) - thickness 16mm

Thickness	U-Value
16mm	2.0

Fivewall (Five) - thicknesses 16 & 25mm

Thickness	U-Value
16mm	1.9
25mm	1.6

Sixwall (Six) - thickness 10mm

Thickness	U-Value
10mm	2.4

7X Wall (7X) - thicknesses 20mm & 25mm

Thickness	U-Value
20mm	1.6
25mm	1.4

Sevenwall (Seven) - thicknesses 16, 32 & 35mm

Thickness	U-Value
16mm	1.78
32mm	1.25
35mm	1.2

XX wall (XX) - thicknesses 32 & 35mm

Thickness	U-Value
32mm	1.4
35mm	1.4

Ninewall - thickness 32mm

Thickness	U-Value
32mm	1.2

Tenwall - thicknesses 35, 40 & 55mm

Thickness	U-Value
35mm	1.08
40mm	0.99
55mm	0.83

Properties

CHEMICAL RESISTANCE

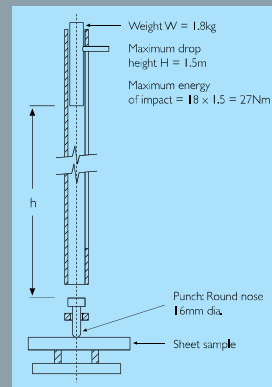
Marlon ST Longlife has, in general, excellent resistance to most chemicals; resistance to specific compounds depends on concentration and temperature, duration of exposure and stress within the sheet. Contact with plastic coated metal sheets, wet wood preservatives, solvents and alkali cleaners should be avoided. For details on the chemical resistance of Marlon ST Longlife to a range of chemicals please refer to the Marlon ST Longlife product guide.

IMPACT RESISTANCE

Polycarbonate exhibits greater resistance to impact than any other glazing material over a temperature range of -40 to +130°C. It is up to 200 times more resistant to impact than glass. High impact resistance means that Marlon ST Longlife is suitable for use in areas with a high risk of glazing breakage, such as areas prone to vandalism or hail storms, where other glazing materials might be inappropriate.

FALLING DART

The impact test illustrated demonstrates the impact resistance of Marlon ST Longlife. A striker of diameter 16mm contacts a sample of sheet placed on a support ring with inner diameter 38mm. A weight of 1.8kg is dropped on to the striker from a height of 1.5m. The resulting impact energy of 27Nm only dents the sample: it does not crack or penetrate.



Typical properties of Marlon ST Longlife

MARLON ST SHEET THICKNESSES (mm)																										
	4	6	8		10				16						20	25		30	32			35			40	55
Structure	Twin	Twin	Twin	Four	Twin	Four	Six	Triple	Five	M	M	X	Seven	7 X	7 X	Five	Twin	XX	Seven	Nine	XX	Seven	Ten	Ten	Ten	
Sheet thickness mm (±0.5)	4	6	8	8	10	10	10	16	16	16	16	16	16	20	25	25	30	32	32	32	35	35	35	40	55	
Rib spacing (nominal) mm	6	6	10	12.5	10	12.5	11.3	20	20	17.5	32	12.4	14	20	20	20	35	16	20	20	16	20	20	20	20	
Maximum Sheet width mm	2100	2100	2100	2100	2100	2100	2100	2100	2100	1250	1220	2100	2100	2100	2100	2100	1250	1250	2100	1250	980	2100	1250	1250	1250	
Approx weight g/m²	800	1300	1500	1500	1700	1700	1700	2700	2700	2800	4000	2500	2500	2800	3100	3400	3500	3800	3600	3600	4200	3900	3900	4200	5000	
Light transmission (%)																										
Clear S	85	82	82	74	82	74	70	77	69	73	74	66	64	62	62	68	77	64	64	57	67	63	54	54	52	
Bronze B	28	26	20	21	33	30	—	18	16	—	—	—	—	—	7	11	18	11	7	—	11	7	—	—	—	
Opal V	39	39	39	39	40	34	—	42	39	35	39	—	—	28	28	30	37	40	33	—	33	31	35	33	32	
U-value W/M²K	3.9	3.7	3.4	2.8	3.2	2.5	2.4	2.4	1.9	2.2	2.5	2.0	1.78	1.6	1.4	1.6	2.6	1.4	1.25	1.2	1.4	1.2	1.08	0.99	0.83	
Falling dart Gardiner impact at 23°C Nm	21.3	27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	>27	

The typical properties table includes some non-standard items which may be subject to minimum order quantities and extended lead times.